

# THE PROPAGATOR

3/78

MARCH 1978

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THE MONTHLY NEWSLETTER OF THE  
ILLAWARRA AMATEUR RADIO SOCIETY

A Member Club of the Wireless Institute of Australia.  
Published by the Illawarra Amateur Radio Society.

PO Box 1838  
WOLLONGONG NSW 2500

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Figtree Hotel  
FIGTREE 2525

NOTICE OF MONTHLY MEETING - - - - MARCH 1978

Members are advised that the monthly meeting of the Illawarra Amateur Radio Society will be held at the Wollongong Town Hall Meeting Room at 7.30 pm on Monday, 13 th March 1978.

AGENDA.

- 1 Apologies and welcome to visitors.
- 2 Minutes of previous Monthly Meeting.
- 3 Correspondence.
- 4 Financial Report.
- 5 General Business.

ANNUAL GENERAL MEETING.

Members are advised that the Annual General Meeting of the Illawarra Amateur Radio Society will be held following the Monthly Meeting on Monday 13th March 1978.

The Agenda includes the Election of Committee for 78-79, and the presentation of the Financial Statement for the year 77-78.

W.I.A. NOTES

VK2 DIVISION BROADCASTS

V O I C E Sunday morning at 11 a.m. EST from VK2WI - VK2AWI & relay stations.

H.F. 160 metres - 1825 khz 80 metres - 3595 khz  
40 metres - 7146 10 metres - 28.5 mhz

V.H.F. 6 metres 52.1 mhz SSB and 52.525 mhz FM  
2 metres 144.1 mhz AM and Channel 8 (Sydney) F.M. 147.0 mhz.  
Channel 3 (Gosford) 146.75 mhz.

Sunday evening at 7.30 p.m. EST. The same VHF frequencies as above plus Ch40 in Newcastle; 3555 khz on 80 metres; 70 c.m. and sometimes 160 & 10 metres.

Monday evening at 7.30 p.m. from Newcastle on 3570 khz on 80 metres plus Channel 6 Newcastle and Channel 3 Gosford.

Note:- Times quoted are local time whether standard or daylight saving applies, on the voice transmissions.

R.T.T.Y. Sunday at 0030 GMT (10.30 a.m. Standard - 11.30 a.m. Daylight Saving) 20 metres on 14090 khz., and 40 metres on 7045 khz.

MORSE:- Each evening at 0930 GMT on or near 3550 khz - 80 metres.

VK2 Beacons

VK2WI - Dural Sydney 52.45 mhz and 144.010 mhz. Under construction are systems for 10 metres 28.2175 mhz and 70 cm.  
VK2WI - High Range near Mittagong 144.120 mhz.

MEMBERSHIP

Membership of the Institute is from the 1st of January until the 31st December. Those who join during the year pay a full years subscription, a prorata adjustment is made in next year's renewal notice.

Applications for Membership are processed at the Divisional meeting on the 4th Friday of the month. The first copy of "Amateur Radio" received is six weeks later. For example - an application approved in February (24.2.78) would receive the April Edition of AR.

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WICEN NOTES Jim, VK2BBG.

Preparations are well in hand for the exercise to be held on March 19th 1978. Permission has been obtained from the Postal & Telecommunications Department and at this stage we are anticipating hearing several stations marine mobile at the exercise.

At this stage I have ordered 6 VRA badges, 6 WICEN badges and 6 hard hats. First in first served, as I believe they are already in the mail.

We are still waiting on the notes from the WICEN training course being held in Sydney. As soon as these are received we will be arranging to run the course locally.

An exercise will be held by the Sydney Group on the 12th and 13th of March in conjunction with the Caves Rescue Group. This will be held at the Bungonian Caves. Anyone interested in participating, please contact me.

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I.A.R.S. MONTHLY BROADCAST.

We would like to remind members that there is a regular monthly Broadcast conducted by John, VK2BHO using VK2AMW.

The Broadcast is made on Channel 40 and also relayed on 28.460 MHz by Brian, VK2BCI and takes place at 1915 Hours EAST on the Sunday preceeding Meeting night each month.

Normally the Broadcast is transmitted through Repeater Channel 5, however lightning has struck once again and currently the Repeater is out of service with extensive damage to the receiver.

I.A.R.S. VK2AMW. Monthly Broadcast.  
146 MHz & 28.460 MHz. 1915 Hours EAST.  
SUNDAY BEFORE MEETING NIGHT, Monthly.

THANKS FOR DONATIONS.

We wish to sincerely thank both John Birdsall, VK2QJ and Stuart Faibairn, VK2AYF for donations of text books and magazines to IARS.

Committee is to put prices on the books, which will be available at meetings - a good chance for some of our beginners to get hold of worthwhile books at a good price. The proceeds will go into Club Funds.

Also Stuart, now moved to Newcastle, left some equipment and parts which have been sold on Meeting nights, and in additiona VTVM which was used as a raffle prize.

Again, many thanks Stuart and best wishes for your future in Newcastle - see you down the log.

**IMPORTANT.**  
**SUBSCRIPTIONS DUE.**

ILLAWARRA AMATEUR RADIO SOCIETY

Subscriptions are now due for 1978-1979

Subscription rates are \$3.

Pensioners and Students half price

The subscriptions cover the costs of postage of the Propagator and hall hire. The rest of the running expenses of the Club and of the Channel 5 repeater are covered by the monthly raffles and profit from sale of components.

Please fill in this form and bring to the meeting (or post in) as it is easier to post the receipt in your newsletter and we can also use the form to check your call and address.

Subscription to the Illawarra Amateur Radio Club

Attached is \$3.00 in payment for membership for the period April 1978 to March 1979.

Name .....

Address .....

.....

Call Sign If Any .....

Please send to: The Honorary Treasurer,  
Illawarra Amateur Radio Club,  
P O Box 1838  
WOLLONGONG. NSW 2500.



General Considerations

The aim of R F coaxial connectors is to terminate coaxial cables carrying RF signals while introducing the smallest loss possible into the system.

Where an RG signal is transmitted along the wire the stray inductances and capacitances present become a major source of loss in the system. To minimise these losses coaxial cables were developed. These cables consist of a centre conductor and a braided shield. This style of cable encloses the RF and protects it from losses and interference.

Coaxial cables also exhibit a rather special property which becomes increasingly important as frequency goes up. This property is characteristic impedance. There is a particular impedance value of a load which will cause all of the transmitted RF energy to be transferred from cable to the load. Maximum power is transferred to the load when the impedance of the load equals the characteristic impedance of the cable.

If a load is not matched to the characteristic impedance of the cable the some of the transmitted power will be reflected at the mismatch causing a standing voltage wave in the cable. The larger this wave is the more power is lost and not transferred to the load. This system loss is denoted by specifying VSWR. The ideal value for VSWR is 1 and acceptable system performance is obtained for all but the highest frequencies up to a value of 1.6.

Imperfections in the value of VSWR are caused by discontinuities at terminations and irregularities in cables. This cause of loss is frequency dependant. At frequencies less than 300 MHz little precision is required. Relatively large mismatches will still result in a low VSWR and at these frequencies it is relatively easy to generate a little more power to accommodate system losses. 50 Ohm connectors can be terminated on 75 Ohm cable and vice versa with little degradation in system performance.

Above 300 MHz correct matching becomes much more critical. Connectors must be designed and manufactured to a much higher precision and correctly terminated to achieve optimum performance. When microwave signals are being handled, virtually no loss is acceptable due to the difficulty in producing power at these frequencies. Coaxial cables must be high quality with a precise characteristic impedance and connectors precision machined to high accuracy to introduce minimum discontinuities in the signal path. Typical VSWR required is 1.05 or less.

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FOR SALE

KENWOOD TS-820 transceiver with digital display.

1 year old. Has had very little use on transmit.

Complete with MC-50 microphone .... \$900

Contact George Meldrum VK2NHG Phone 843153



QSL QSL QSL ....

Gerry, VK2APG has a batch of Inwards QSL cards. These will be available on Meeting Night. At time of publication we don't have a list of Calls included in the batch, so check with Gerry if you are waiting for cards (?).

A reminder that cards for W.I.A. Members only can be handled through I.A.R.S.

Any Non-Member of the W.I.A. wishing to have QSL cards handled through the Bureau should make his own arrangements through the W.I.A.. Better still, how about joining the W.I.A. and you get 'Amateur Radio' each month as well. Membership application forms are available from Geoff, VK2ZHU.

WANTED - Receivers for 3.5MHz

Receivers of any type capable of 3.5MHz or convertible to 3.5MHz to suit Novices getting on the Air are wanted.

See Keith, VK2OB if you have any old receivers lying around gathering dust. Age or condition doesn't matter much.

NEW CALLS

There have recently been quite a number of new calls amongst our members. Some of us are still trying....

Apologies to those not named, but here are some -

Charles, still VK2ZEN but awaiting new Full Call Sign.

Jim, formerly VK2YCH, is now VK2BOU.

Also Ian VK2NRR and Derek VK2NRJ have joined the ranks.

Congratulations!

WICEN

As you will see elsewhere in this issue, Illawarra WICEN is well into gear, under the guidance of Coordinator Jim VK2BBG.

In view of the necessity of expenses like insurance for participating members having to be met, Committee has resolved to allocate up to \$50 in any one year towards WICEN expenses. Such monies are to be reimbursed, at the discretion of Committee, to the WICEN Coordinator to defray expenses incurred in the carrying out of WICEN activities.

WARC '79.

The proceeds of our raffle amounted to \$400. Thanks to Barry Hartley VK2FE of MACELEC for donation of a Scientific calculator prize. Also thanks to members for their support.

An invitation has been extended to Tim Mills, President of the NSW Division of the WIA, to attend our April meeting to accept the cheque for \$400 and to address the Meeting on the subject of the problems facing Amateur Radio in the future, and the role that the WIA can play in meeting these problems.

CHANNEL 5 REPEATER ?

Havn't heard it lately? Unfortunately, our repeater is once more out of action. A further lightning strike on 23/2/78 caused a fair amount of receiver damage. Repairs are proceeding and it is hoped we will soon be back on the air.

FOR SALE.

Voltage Regulator Units.

Current rating of 20 Amps approx.

Voltage rating - three models - 6V, 12V, 20V.

Units are regulators only, transformer and rectifiers are not supplied.

Sample units will be at the meeting for inspection.

See or contact Keith, VK2OB.



## Distributors of COMMUNICATIONS TRANSCEIVERS

### HF TRANSCEIVERS

<b>ASTRO</b> - 200 digital solid state 200 W.P.E.P.	<b>\$1000</b>
<b>TRIO KENWOOD</b> new model TS-520-S 160 to 10 M, with optional digital readout connected externally. Can be used as a frequency counter self contained separately powered by 12 volt DC.	<b>\$700</b>
<b>TRIO KENWOOD</b> model TS-820S AC only 160 to 10 M with digital readout.	<b>\$1,100</b>
<b>TRIO KENWOOD</b> model TS-820 AC only 160 to 10 M.	<b>\$930</b>
<b>TRIO KENWOOD</b> model MC 50 Microphone.	<b>\$ 50</b>
<b>TRIO KENWOOD</b> model TS 600 A FM-AM. SSB transceiver full 50-54 MHz coverage 10 Watt output variable from 1 Watt to full power. VFO controlled AC DC operation. Styling as TS 700-A.	<b>\$700</b>
<b>TRIO KENWOOD</b> model TR-7400 2 meter FM transceiver 10 to 25 watts output. Frequency range 144.00 to 147.995 MHz No. of channels 800. Double conversion super- heterodine sensitivity better than 0.4 UV for 20 DB.	<b>\$440</b>
<b>ICOM</b>	
<b>VHF TRANSCEIVERS SSB</b>	
<b>ICOM</b> model IC-202 2 M SSB portable trans- ceiver 144-144.4 MHz	<b>\$215</b>
<b>ICOM</b> model IC-502 6 M SSB portable trans- ceivers 52-53 MHz.	<b>\$215</b>
<b>ICOM</b> IC-22-S synthesized 22 channel 2 M transceiver 10 channel pre programmed. Supplied with 50 extra diodes for the programming.	<b>\$269</b>
<b>ICOM</b> model IC-245	<b>\$450</b>
<b>ICOM</b> model IC-211	<b>\$750</b>
<b>YAESU MUSEN</b> model FT-101-E AC-DC transceivers 10 to 160 M with speech processor	
	<b>\$850</b>
<b>YAESU MUSEN</b> model FT 301.	<b>\$960</b>
<b>YAESU MUSEN</b> model FT 301 - D	<b>\$1140</b>
<b>YAESU MUSEN</b> model FT - 301 - S	<b>\$660</b>
<b>YAESU MUSEN</b> model FL-2100 B Lineal Ampl.	<b>\$525</b>
<b>YAESU MUSEN</b> model FP - 301	<b>\$165</b>
<b>YAESU MUSEN</b> FR G-7 Uses Wadley loop princ.	<b>\$300</b>
<b>YAESU MUSEN</b> FT221-R 2 meter all mode transceiver.	<b>\$628</b>
<b>FREQUENCY COUNTERS</b>	
<b>YAESU MUSEN</b> model YC 500 E S J	<b>P.O.A.</b>
<b>SWR METER</b>	
Twin meter model: Y.M. - I.E. 3.5 to 145 MHz prof quality	<b>\$ 28</b>
<b>DRAKE</b> TV - 3300 TVI lowpass filter	<b>\$ 34</b>
<b>SSR</b> 1 Receivers	<b>\$270</b>

### AUSTRALIA'S SOLE DIST. OF KLM PRODUCTS

<b>KLM SOLID STATE POWER AMPLIFIERS</b>	
(MHz) 144-148 PA10- 80BL	80 OUTPUT (watts)
" PA10-140BL	140 "
" PA10-160BL	160 "
" PA 2- 70BL	70 "
400-470 PA10- 70CL	70 "
PA 2- 12-B	12 Watts
PA 2- 25BL	25 Watts
	<b>P.O.A.</b>
<b>NOW AVAILABLE</b>	
New range of beam antennas from Western Communications U.K. model DX33 3 element tri-bender	
	<b>\$238</b>
<b>HIDAKA</b> model VS-33 3 element tri-bender includ- ing Balun	
	<b>\$258</b>
<b>VERTICALS: -</b>	
<b>HIDAKA</b> model VS-41 80 through 10m. Vertical antenna incl.	
	<b>\$115</b>
Guide wires (Radial Kit additional \$30)	
<b>MARK MOBILE ANTENNAS</b>	
HW-80, 6' long for 80 M.	<b>\$ 28</b>
HW-40, 6' long for 40 M.	<b>\$ 25</b>
HW-20, 6' long for 20 M.	<b>\$ 23</b>
Swivel mounts & chrome plated springs for all	<b>\$ 13</b>
<b>CUSH CRAFT ANTENNAS</b>	
A144 11 11 Element 2M Yagi	<b>\$ 50</b>
A147 11 11 Element 2 M Yagi	<b>\$ 50</b>
A147 20 combination horizontal vertical 2 M	<b>\$ 75</b>
<b>ANTENNA ROTATORS</b>	
Model CDR Ham-11 for all hf beams except 40 M	
	<b>\$240</b>
Model CDR AR 22 L junior rotator for small beams	
	<b>\$ 75</b>
<b>KEN</b> model KR-400 for all medium size hf beams with internal disc brake	
	<b>\$120</b>
All models rotators come complete with 230- volt AC indicator-control units. 6 conductor cable for KR-400 500	
	<b>65 cents per metre</b>
<b>COAX CABLE CONNECTORS</b>	
PL-259	<b>\$1.20</b>
SO-239 Chassi Mount	<b>\$1.20</b>
Male to male joiner	<b>\$1.20</b>
Female to female joiner	<b>\$1.20</b>
Angle connector	<b>\$2.00</b>
T connector	<b>\$2.50</b>
<b>COAX CABLE</b>	
RG-8 - U foam filled	<b>per metre \$1.20</b>
<b>CRYSTAL FILTER</b> , 9 MHz, similar to FT-200 ones. With carrier crystals.	
	<b>\$ 35</b>
<b>APOLLO</b> 3 position co-ax switches	<b>\$ 15</b>

All prices quoted are net SYDNEY, N.S.W., on cash-with-order basis, sales tax included in all cases, but subject to changes without prior notice. ALL-RISK INSURANCE from now on free with all orders over \$100; small orders add 50c for insurance. Allow for freight, postage or carriage; excess remitted will be refunded.

## Sideband Electronics Sales

For personal attention: 24 KURRI STREET, LOFTUS

OPEN ON SATURDAYS TILL 12 NOON

P.O. BOX 184, SUTHERLAND, 2232

TELEPHONE: 521-7573

PETER SCHULZ, VK2ZXL

WANTED ... WANTED ... WANTED

Technical articles, For Sale advertisements,  
Personal Items, etc., ... ANYTHING!

For inclusion in forthcoming issues of  
the Propagator.

Any material for publication should be in  
the Editors hands not later than 1½ weeks  
before Meeting nights.

Ed. VERZJA.



Moonbounce Report - March 1978.

The Dapto Moonbounce installation has been severely damaged by vandals. The damage was discovered on 8th Feb. when I went to the site to start to prepare for the scheduled EME tests on Saturday 11th Feb.

The buildings had been entered, windows smashed and items in all rooms either smashed or stolen. Fire extinguishers had been discharged over the equipment, paint thrown around and cupboards emptied of contents. Holes had been smashed in the floor and a fire had been lit in one room but had fortunately not caught the building alight.

The padlock had been jemmied off the steel security locker which housed our Moonbounce equipment and items of gear either stolen or damaged. Quantities of wiring and cabling had been ripped out and cut off.

The police and University were immediately notified.

In order to try to meet our obligations to the other stations scheduled with VK2AMW for the EME tests on 11th Feb., temporary repairs were made to essential items of damaged equipment on 9th and 10th. On the 11th Charles Proctor, Geoff Cuthbert and myself spent 5 hours trying to set up a 'jury rig', but without success.

Had it not been for my removal of a number of portable items of equipment from the site prior to Christmas, the situation would have been much worse.

The buildings were secured against entry, but the next week saw more serious damage from intruders, who smashed off locks again and ripped out most of what remained of wiring etc.

Under the circumstances there was no point in attempting repairs.

On 2nd March an inspection of the site was made with representatives from the University and the decision reluctantly made that adequate security is not now possible at this location, as, even if burglar proof building could be erected, the dish is too vulnerable to serious damage. Consideration will now be given to the practicability of moving the dish to some other location.

The Dapto Moonbounce Project, as such, has thus been destroyed after some 8 years of work. Maybe we achieved something worthwhile in the field of Amateur Moonbounce communication in Australia.

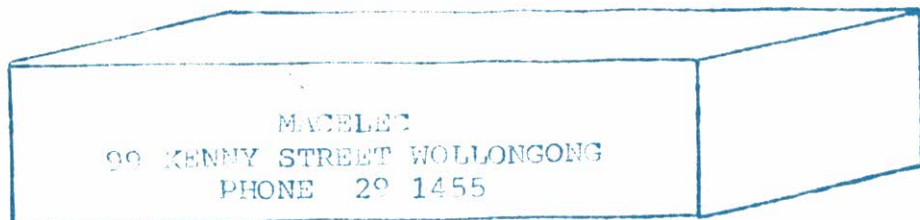
It is hoped that we may be able to continue our Moonbounce activities at some other site, in cooperation with the University of Wollongong, in the not distant future.

My sincere thanks go to all who have worked on the Project over the years. If we do get the chance to rebuild then much more work will be needed from any who may be willing to help.

Missing items. Unfortunately most of the missing items would not be identifiable with the parent equipment. However two items are worth looking for (i) a brass Morse key mounted on a varnished wooden base and (ii) a 240 volt Selsyn approx. 4 inches diameter, painted grey. Please advise me, or the Club Secretary if you see or hear of these.

Lyle VK2ALU.





TS 820S H.F. Transceiver 10-160M With Digital Display .....	\$1100.00
TS 520S H.F. Transceiver 10-160M .....	\$ 699.00
TR 7500 - All New 2M FM Mobile .....	\$ 350.00
DG5 Digital Display / Frequency Counter for TS 520S .....	\$ 170.00
DK5 Adaptor Kit-True Digital Display with TS520 ...	\$ T.B.A.
TS 600 All mode 6 metre Transceiver .....	\$ 734.00
TS 700 All mode 2 metre Transceiver .....	\$ 675.00
SP 520 Extension Speaker to suit TS520-820 .....	\$ 36.00
TR2200A 2 metre FM Portable .....	\$ 192.00
TR7200 2 metre FM Mobile .....	\$ 249.00
TR3200 70CM FM Portable .....	\$ 291.00
TR7400A 2 metre FM Digital 25W Mobile .....	\$ 434.00
R300 Communication Receiver .....	\$ 260.00
MC 50 Desk Microphone .....	\$ 49.00
MC 10 Hand Microphone .....	\$ 13.00
HC 2 Ham Clock .....	\$ 32.00
A 25 2 Metre Hi-Gain Mobile Antenna .....	\$ 17.25
MB Mobile Base only .....	\$ 3.62
M25T 2 metre Hi-Gain (Top Only) .....	\$ 13.75
Hansen PS5 SWR - Power Meter .....	\$ 36.00
Hansen SWR - 6 Field Strength - SWR Meter .....	\$ 26.00
B & K 1827 6 Digit Auto Ranging Frequency Counter ..	\$ 228.85
100 HZ - 30 MHZ.	

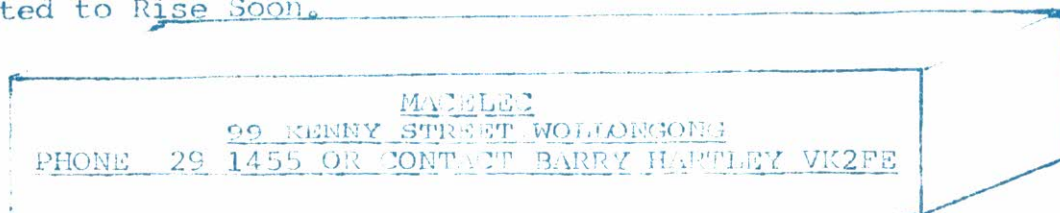
New Products Available Soon --

Kenwood Antenna Tuning Unit With Inbuilt S.W.R.

Hansen R.M.S and Peak Reading Power Meters 20 Watt and 200 Watt  
P.E.P Full Scale.

We also stock a range of Audio Generators - Signal Generators  
Digital Multimeters - Power Supplies ETC.

With the Recent Revaluation of the Japanese Yen, Prices are  
Expected to Rise Soon.



\*Prices subject to change without notice.



COMPONENTS FOR SALE

Disc Capacitors. .001, .0047, .01, .022. ... 6 cents.  
.047 ... 8 cents. .1 ... 10 cents.

Electrolytic condensers, 25V, double ended.  
4.7 uF ... 6c. 100 uF ... 12c.  
220 uF ... 15c. 470 uF ... 20c.

Trimmer Condensers.  
Ceramic trimmer, mica insulation. 30c.  
Wire wrap type trimmers. 10c.  
Ceramic bolt-down trimmers. 10c.

Tantalum Capacitors.  
.47 mF ... 17c. .1 mF ... 17c.  
4.7 mF ... 18c. 10 mF ... 25c.  
22 mF ... 45c. 47 mF ... 65c.

PCB mounting trimmers, 3-13 pF. ... 10 cents ea.

SEMICONDUCTORS. NEOSID. Formers, cans, etc.  
BC 109 20c. Formers. 8c.  
MPF 131 85c. Balun formers, small. 12c.  
5486 FETS 65c. large. 15c.  
1N4148 10c. Cans. single. 10c.  
OA91 12c. double. 12c.

Coil Former, complete with can. ... 10 cents each.

ANTENNA BASE, 'Belling Lee' mobile type. ... \$4.00 ea.

METERS

S Meter 400uA 1 7/8" x 5/8" \$2.50  
Level Meter dual 200uA meters, illuminated \$3.00  
0 - 1 mA Meter 50mm square \$4.00  
0 - 1 mA Meter 75mm x 50mm. \$5.00  
2" sq. 100mA centre zero meters. \$6.00

RESISTORS

Bag of 160 1/2 watt resistors.  
10 each of values 10, 47, 68, 100, 220, 470, 680, \$4.00  
1K, 2.2K, 4.7K, 6.8K, 10K, 22K, 47K, 68K, and 100K.

ANTENNA WIRE

Bronze alloy wire, single strand, 1.2mm diameter. See sample at meeting.  
Lengths cut to order 5c/metre

Pair meter leads with alligator clips - *Reduced to* - 30c  
Vernier dials 35 mm. 4 turns knob for 1/2 turn dial \$1.50  
DPDT slide switches 25c  
Four pin plug and socket - pair 15c  
Alligator clips - large, insulated. Red or Black 20c  
Ground Plane Antenna Base \$1.00  
Edge connectors \$1.00

———— WESTLAKES NOVICE MANUALS. New stock. \$3.50 ————

The I.A.R.S. Store is stocked with selected purchases of good quality components. A small profit is marked up on these items yet prices are very reasonable. The profit goes towards expanding the range of items kept in stock.  
Bring your money on meeting nights and keep stocked up with those often needed components.



I.A.R.S.

P.O. Box 1838,

WOLLONGONG, NSW 2500

MR.L. PATISON VK2ALU  
98 HEASLIP STREET  
WOLLONGONG  
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THE PROPAGATOR

Newsletter of the Illawarra

Amateur Radio Society

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